



Perspectives and Experiences on

# Minnesota's Watershed Approach



MNDNR  
Lighthouse Point, Two Harbors





Allen's Photography  
Shovel Point, Tettegouche State Park





Clint Little  
Lester River, Duluth





MNDNR – Parks and Trails Division  
Knife River





MNDNR – Deborah Rose  
St. Louis River, Carlton





MNDNR – Paul Sundberg  
Gooseberry River





MNDNR – Deborah Rose  
Cascade River





St. Croix

Mississippi



# Minnesota Water Management Framework

- **Who:** Seven state agencies
- **What:** Enhance collaboration and clarify roles
- **When:** Now
- **Where:** Across the state
- **How:** Systematically and predictably deliver data, research, and analysis; empower local action



Amazing new products from

Minnesota's Lake Superior Coastal Program:

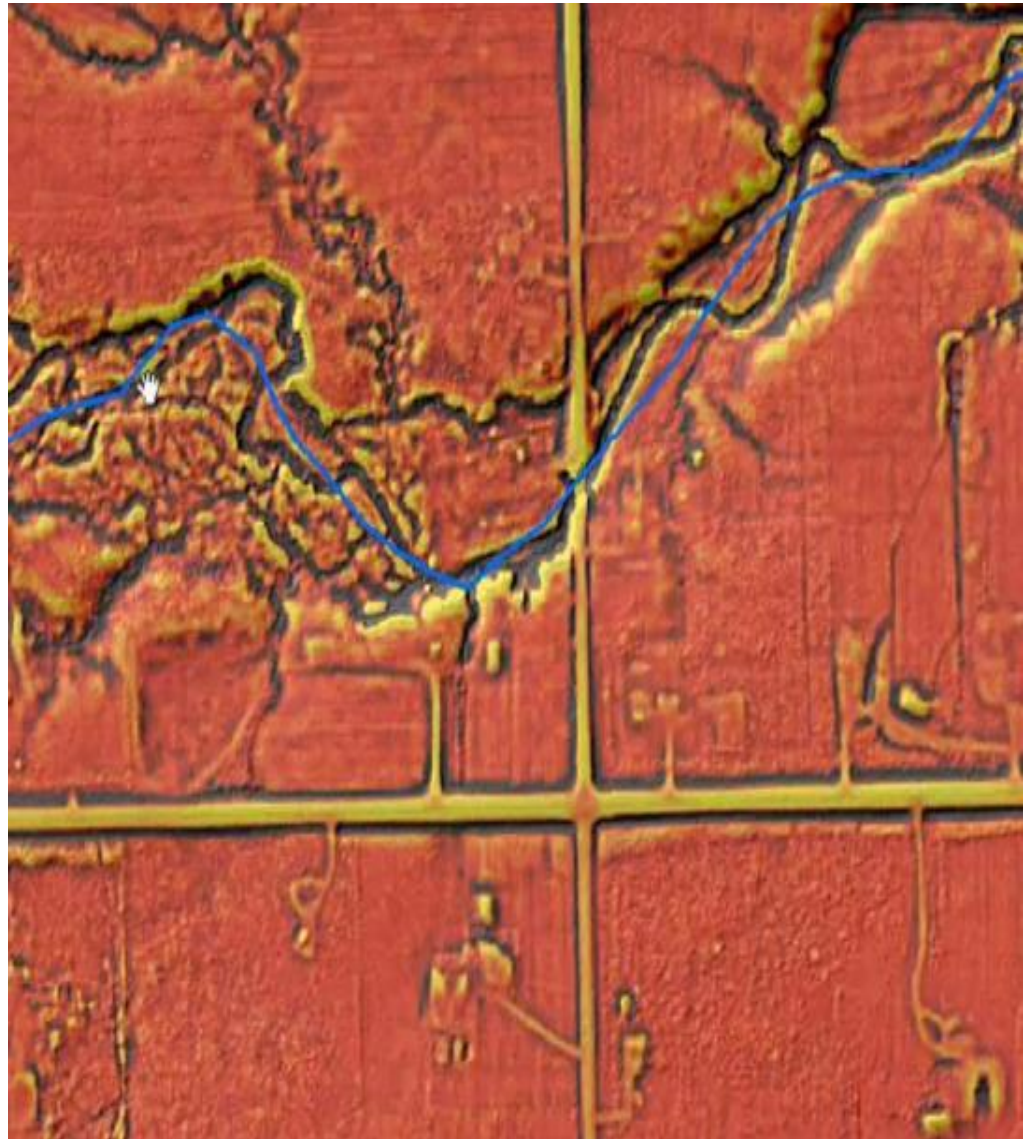
# Updated Stream Hydrology



# Current Stream Data Overlay

Existing streams were hand digitized from USGS 1:24,000 topographic maps.

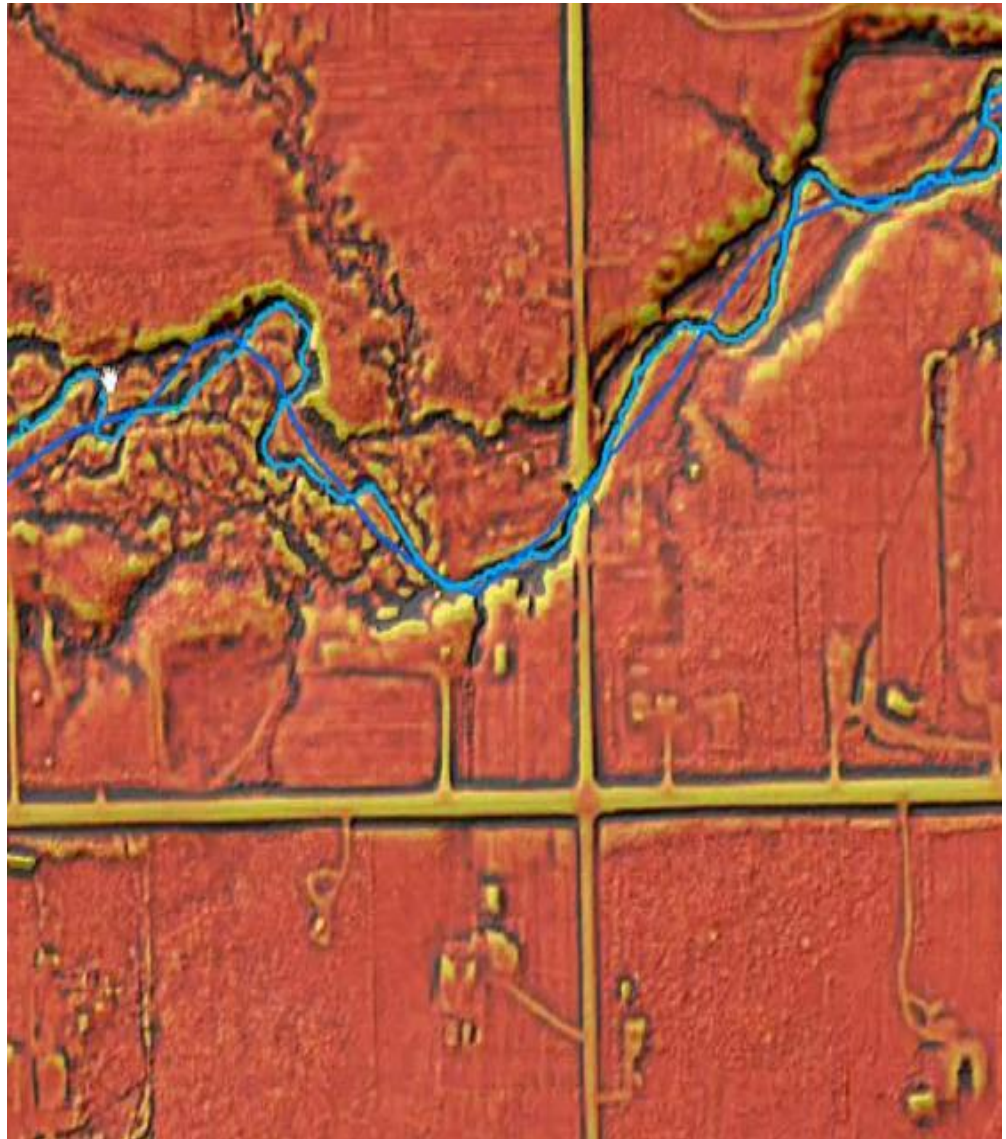
Stream lines rarely match current imagery and LiDAR derived data.





# LiDAR Derived Stream Lines compared to 24k streams

Finished product





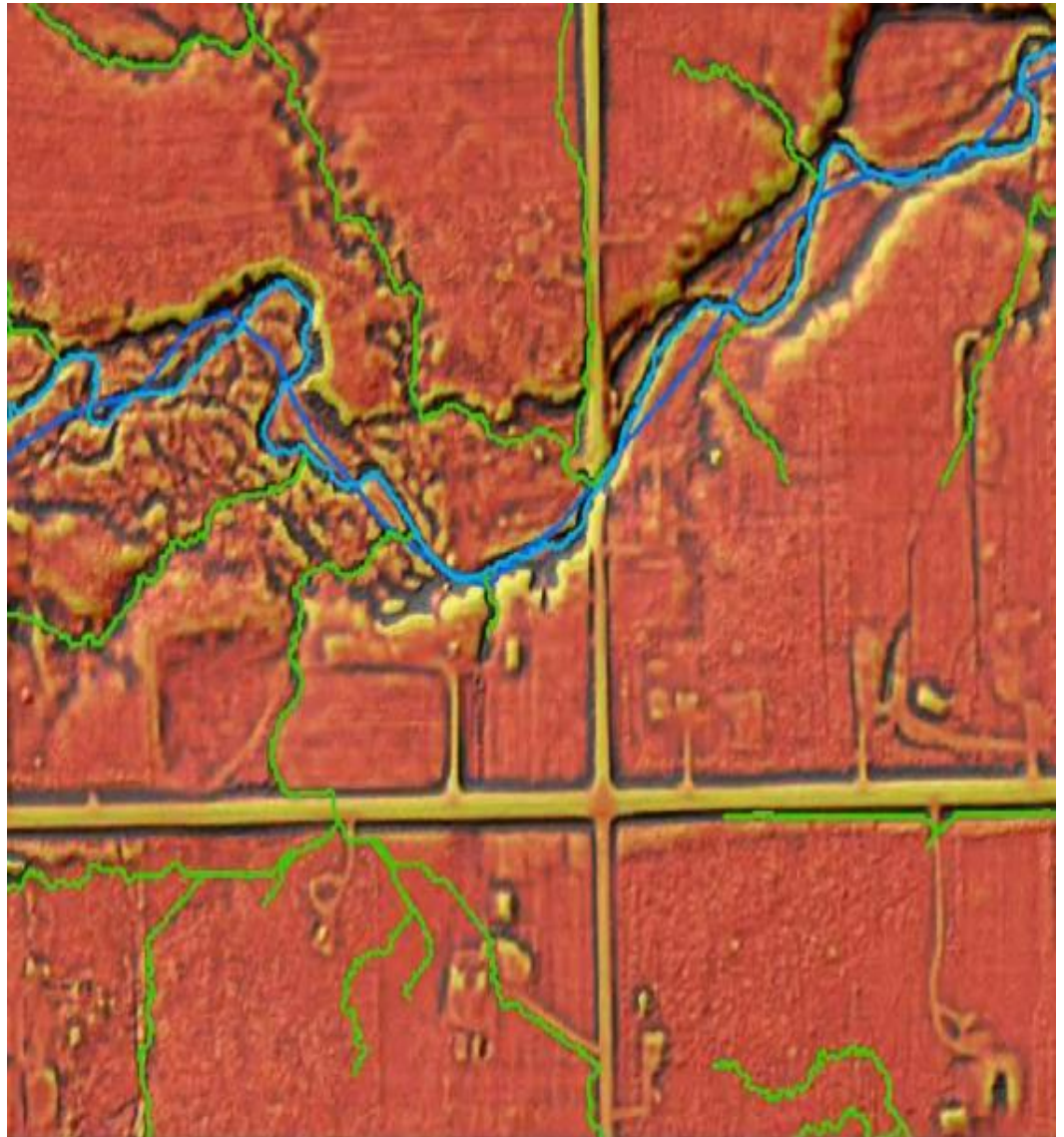
# It's not easy...

Leveraged existing  
culvert inventories

Initial data provides a lot  
of detail

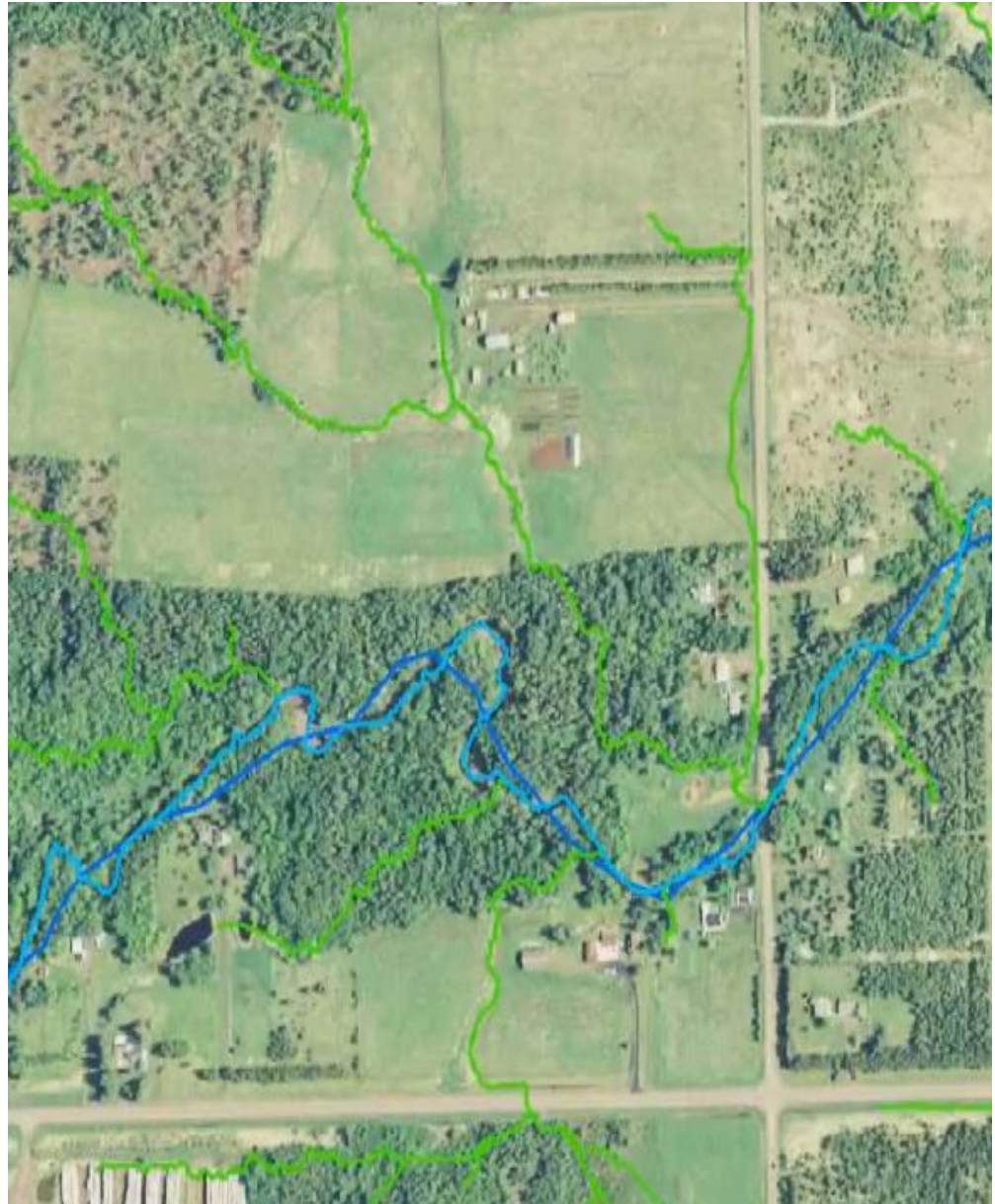
A lot of trial and error

A lot of meetings with the  
MN DNR Water  
Resources Team.





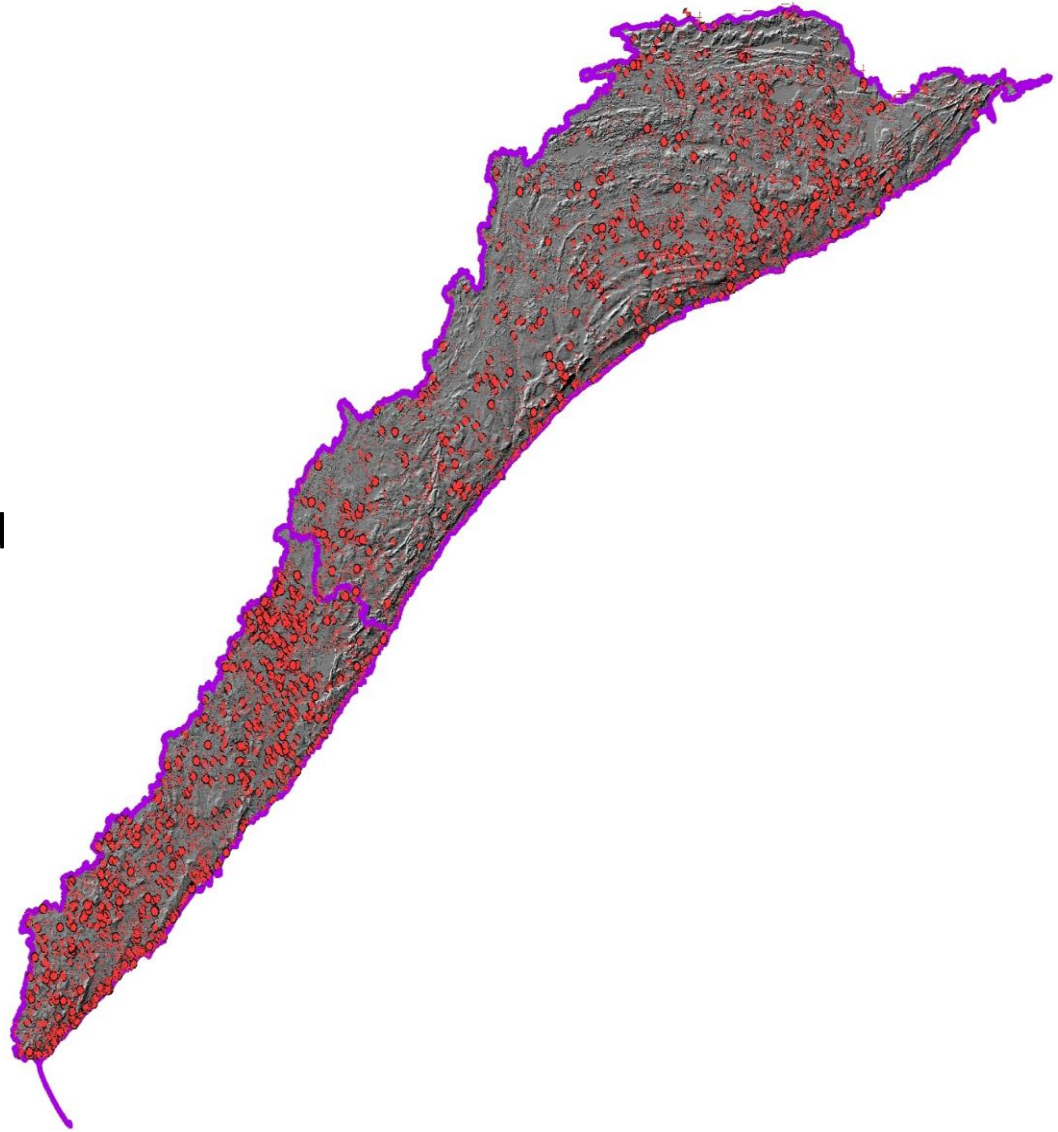
# With Ariel Photography





# 13,142 Digital Dam Breach Lines

Created from existing  
culvert inventory and hand  
digitized using air photos  
and LiDAR derived data



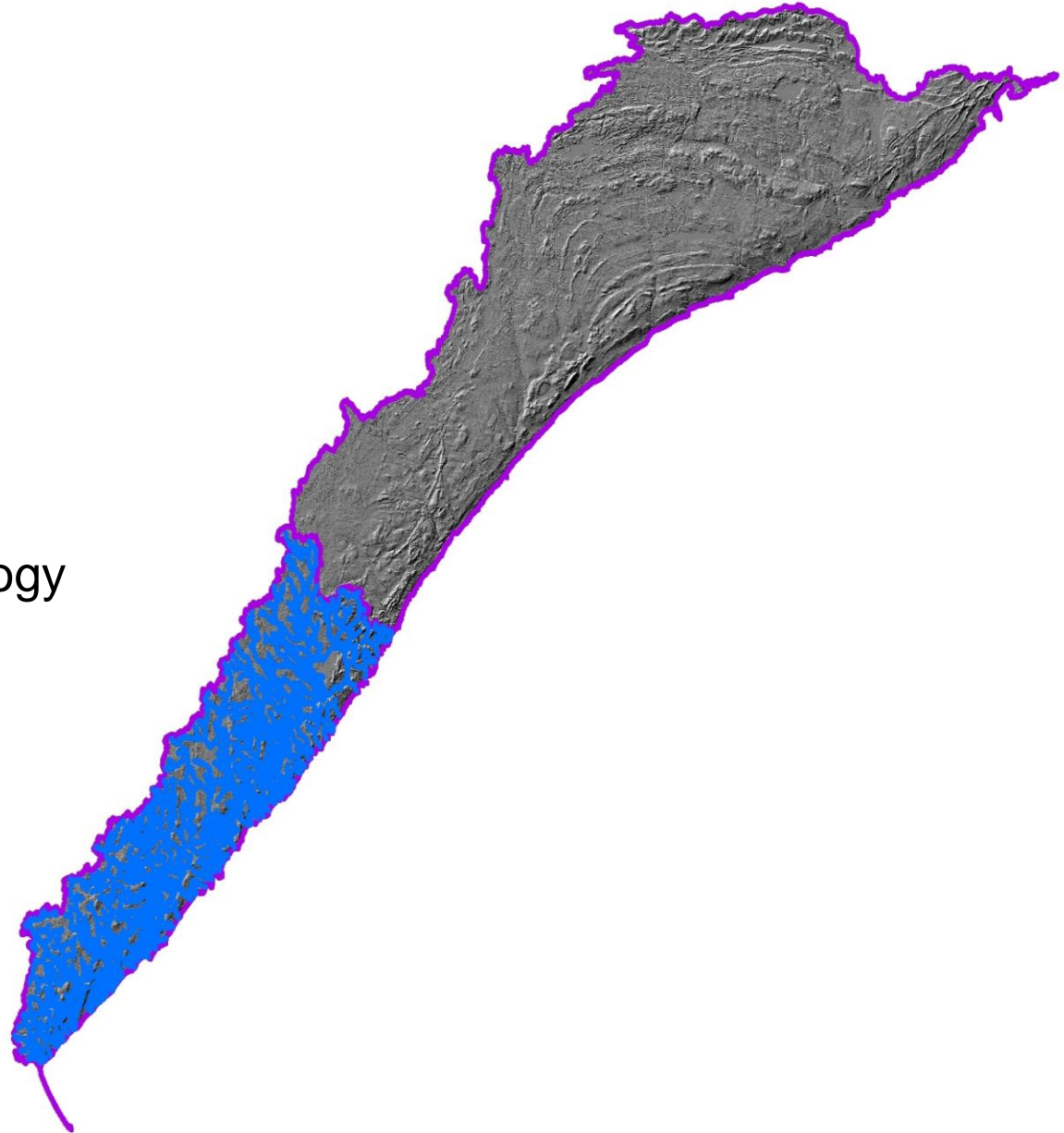


# Progress

Area shown has  
completed QA/QC

## ***Products***

- MN DNR next generation hydrology layer
- Flow path
- Breach Lines





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